Joint Agency Workshop on California's Drought

Commissioner Catherine Sandoval

California Public Utilities Commission

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CPUC Jurisdiction

- The Commission has jurisdiction over investor-owned energy, water, and telecommunication utilities, common carriers including some pipelines, rail safety, and other utilities and services such as Transportation Network Carriers.
- Jurisdiction over energy providers serving ~2/3 of the state's energy ratepayers
- Jurisdiction over water providers serving ~ 19% of the water ratepayers
- Support for communications and broadband deployment
- Consumer education, low income assistance, and public safety elements across those sectors.

CPUC Energy Efficiency Funding

- CPUC Energy Efficiency Programs: Approximately $1 billion/year

- CPUC Low Income Energy Programs (Energy Savings Assistance Program (ESAP): Approximately $335 million/year

- CPUC Low Income Water Ratepayer Assistance Programs

CPUC Water-Energy Nexus Proceeding, Cost Effectiveness, Draft Calculator

- Goal: Determine the cost effectiveness of joint water energy projects for investor owned utility ratepayers
  - Estimate the IOU and non-IOU embedded energy savings that result from joint water-energy programs.
  - Assess the benefits that accrue to energy utilities and to water utilities from programs and measures that save both energy and water.
  - Determine if incentivizing measures and programs that save both energy and water is a cost effective use of IOU energy utility funds, and examine other issues and opportunities stemming from the water-energy nexus.

Finalizing the Water-Energy Nexus Tools

- Draft tools were released for public comment on April 29, 2015. Available here: http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/Water-Energy+Nexus+Programs.htm
- Tool allows evaluation of a measure or suite of measures per energy intensity information at hydrologic basin or more localized level.
- Party comments support adoption of the tool.
- Proposed Decision issued on August 17th for comment, Commission scheduled to vote on the Proposed Decision on September 17th.

Sample Water-Energy Nexus Cost Effectiveness Tool Run

Example Run by SCE: SCE's Water Leak Detection Pilot: E3 EE Model vs. W-E Cost Effectiveness Model (w/o allocation of budget costs)

City	Gross Measure Cost	kWh Savings	kW Savings	TRC
City 1	$15,080.00	278.3	0.11	0.01
City 2	$34,788.00	18349.7	6.40	0.28
City 3	$20,221.00	6840.4	2.51	0.18
City 4	$28,101.00	10027.3	3.36	0.19
City 5	$27,834.00	914.2	0.30	0.02
TOTAL	$126,024.00	36,409.9	12.68	

Water Loss Cost Effectiveness Using CPUC-Navigant Draft Calculator Newest Version

Scenario	Gallons of Water Saved	Avoided IOU Electric Energy Cost (2014$)	Avoided Water & Wastewater Capacity Cost (2014$)	Combined Total Resource Cost Test
City 1	530,000	$641.66	$17,436.29	1.28
City 2	21,550,000	$26,090.08	$708,966.24	22.59
City 3	11,040,000	$13,365.87	$363,201.27	19.91
City 4	8,410,000	$10,181.79	$276,677.78	10.91
City 5	530,000	$641.66	$17,436.29	0.69
TOTAL	42,060,000	$50,921.06	$1,383,717.87	12.17

R. 11-11-008 Balanced Rates OIR on Water Ratemaking Policies

Phase II will address:

- Water Rates & Conservation
- Accounting Mechanisms: WRAM & MCBA
- Customer impacts
- Drought emergency
- Technology

Rulemaking seeks to balance infrastructure investment and rates to achieve safe, reliable service, at just and reasonable rates.

Water Meters

- Most water meters are analog.
- Few digital meters deployed.
- Communications backbone necessary to collect, read, and analyze digital signal.
- Water/Energy Nexus Proceeding proposes pilot for Energy Utilities to provide Water Utilities access to Smart Meter data collection backbone as an Energy Efficiency measure.

Communications and Water

- Communications facilities and services are necessary for management of water and energy.
- Infrastructure deployment issues, particularly in rural areas, hamper use of communications to manage water and energy, and pose public safety issues in drought and fire emergencies.
- Encourage adoption of communications technologies where deployed.
- Identify gaps, effect of gaps, and barriers to deployment and adoption.

Orleans Microwave tower, Telephone Central Office facilities critical for emergency Cell on Wheels (COW) connection & plain old telephone service to town and fire camp

Agricultural recycling control center, Redding

The Old Way

The New Way

Autonomous Vehicle at Santa Clara University